

REMARKS

[01] Finality of Action

[02] While the Office Action of 2010-Jan-19 indicates that it is “final”, the Examiner assured the signing attorney in a phone conversation about 2010-Jan-20 that the action was marked “non-final” in the system. Applicant is relying on this assertion by the Examiner.

[03] Claim Numbering

[04] Item 6 of the Office Action of 2010 purportedly rejects Claims 38-40, 42-43, and 45 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent no. 6,233,017 to Chaddha, “Chaddha” herein. However, all these claims were previously canceled. From the following paragraphs in the Office Action, it appears that the rejections for anticipation are actually applicable to Claims 48-60.

[05] Indefiniteness

[06] The Office Action, Item 4, rejects Claims 54 and 58 for indefiniteness due to improper dependencies from a canceled claim. Claims 54 and 58 have been amended to overcome this ground of rejection.

[07] “Sequence”

[08] The independent claims have all been amended to make it clear that the series included in the video stream is a sequence, *i.e.*, a temporally and *spatially-arranged* series. In other words, the first temporal layer precedes (*i.e.*, is upstream of) all succeeding temporal layers, and each succeeding temporal layer is downstream of any temporal layers that precede it in the series. The purpose of these amendments is to exclude interpretations of “series” that would permit an abstract ordering of the temporal layers having nothing to do with their positions in the video stream.

[09] Anticipation--Claims 48, 49. 54, 55, 56

[10] Claim 48, as amended, requires temporal layers to be spatially arranged in a series in an including video stream. Chaddha does not disclose this limitation. Chaddha, 14c55-65 (column 14, lines 55-65), discloses that the different temporal layers are multicast. This means they are not transmitted as a single video stream and thus cannot be spatially arranged in such a video stream. For this reason, the Claim 48 limitation of “temporal resolution can be selected as a function of a whole number of said succeeding layers truncated from an end of said series” is not met by Chaddha. Instead, Chaddha, 14c55-65, discloses selecting resolution by choosing which multicast groups to join/leave. Thus, it is respectfully submitted that the rejections for anticipation by Chaddha should be withdrawn as to amended Claims 48, 49 (by virtue of dependency), 54, 55, and 56 (in view of analogous reasons for rejection).

[11] Anticipation--Claims 50, 57

[12] Claim 50 depends from Claim 48 and thus is *a fortiori* novel with respect to Chaddha for the two reasons given above for Claim 48. Claim 50 adds a “table of contents” limitation “wherein said encoded video stream includes a table of contents indicating an offset for each frame included in said encoded video stream”. Chaddha does not disclose this limitation.

[13] In asserting a contrary position, the Office Action refers to Chaddha, 13c39-50. This passage discloses vector quantization tables used in encoding video. The tables are not a table of contents for video frames, but rather a mapping of vector descriptions to binary codes. The passage does not disclose that the tables are included in the video stream. Thus, Claim 50 is novel for this additional reason in addition to the two reasons given above for Claim 48. Accordingly, it is respectfully submitted that the rejection for anticipation should not be asserted against Claim 50 or, for analogous reasons, Claim 57.

[14] Anticipation--Claims 51, 58

[15] Claim 50 depends from Claim 48 and thus is *a fortiori novel* with respect to Chaddha for the two reasons given above for Claim 48. Claim 50 adds a “spatial-layer” limitation “for each of said temporal layers, data is arranged in spatial layers so that a spatial resolution can be selected by truncating a whole number of spatial layers from respective ends of at least some of said temporal layers, said B-frames being wavelet encoded”. This limitation is not disclosed by Chaddha.

[16] In asserting a contrary position, the Office Action refers to Chaddha, 15c15-30. This passage discloses temporal layers and spatial layers, but does not disclose that a temporal layer is arranged in spatial layers or that resolution can be selected by truncating a whole number of spatial layers from respective ends of temporal layers. Accordingly, it is respectfully submitted that the rejection for anticipation should be withdrawn in view of Claim 51 as amended herein.

[17] Anticipation--Claims 52. 59

[18] Claim 52 depends from Claim 51 and indirectly from Claim 48 and thus is *a fortiori* novel with respect to Chaddha for the reasons given above for Claim 51. Claim 52 adds a “signal-to-noise layer” limitation “data is arranged in signal-to-noise layers so that a signal-to-noise ratio can be selected by truncating a whole number of said signal-to-noise layers from respective ends of at least some of said spatial layers”. Chaddha does not disclose this limitation.

[19] In asserting a contrary position, the Office Action refers to Chaddha, 7c40-45. This passage discloses measuring quality in terms of a signal-to-noise ratio. This passage does not refer to signal-to-noise ratio layers in a video stream or truncating such layers from a spatial layer. Accordingly, it is respectfully submitted that the rejection for anticipation of Claim 52 should be withdrawn.

[20] Anticipation--Claims 53, 60

[21] Claim 53 depends from Claim 52 thus is *a fortiori* novel with respect to Chaddha for the reasons given above for Claim 52. Claim 53 adds an “interactivity layer” limitation “wherein said encoded video stream is of one of plural such streams collectively arranged in a series interactivity layers so that a level of interactivity can be selected by truncating a whole number of said interactivity layers from said series of interactivity layers”. Chaddha does not disclose this limitation.

[22] In asserting a contrary position, the Office Action refers to Chaddha 1c20-30 and 7c40-45. The latter passage does not appear relevant to interactivity layers at all, so some clarification is respectfully solicited from the Examiner. The former passage refers to “human interaction”, which seems irrelevant, and to “interactive video”, which seems relevant. However, Chaddha 1c20-30 does not discuss how interactive video is implemented, and does not mention interactivity layers in the form of plural video streams. Accordingly, it is respectfully submitted that the rejection of Claim 53 for anticipation should be withdrawn.

[23] Obviousness

[24] Item 9 of the Office Action rejects Claims 61-78 for obviousness given Chaddha and U.S. Patent Publication 2003/0031380. These claims are analogous to Claim 60-61 but add limitations regarding the method of decoding the video stream. The obviousness rejections rely of the validity of the rejections for anticipation, which, as shown above, are not fully supported by Chaddha. Thus, the rejections of Claims 61-78 for obviousness should be withdrawn for the reasons given above regarding corresponding ones of Claims 48-60.

[25] In addition, the rejections based on obviousness lack a suitable motivation for the proposed combination. The only justification for combining the teachings appears to be that they are “in the same field of endeavor”. The Final Action has failed to establish a benefit of the proposed combination that would prompt one skilled in the art to make such a combination.

[26] To the contrary, Song teaches that there would be no benefit.

[27] As this particular application requires random access of an arbitrary frame within a GOP, decoding a particular frame within the GOP may require decoding several frames before and after the frame of interest. Of course, for playing the encoded sequence as a normal video, such problems do not exist as all frames are decoded in the natural order. The application of the present invention, however, must support frame decoding not necessarily in sequence. (Song, [0089])

[28] As Chaddha relates to playing an encoded sequence as a normal video rather than visualization and manipulation of 3-D objects, Song teaches that the problems addressed by pre-decoding do not apply to an application such as Chaddha's. Hence, there would be no motivation to modify Chaddha in accordance with Song's teachings. Accordingly, it is respectfully submitted that the rejections for obviousness should be withdrawn for this additional reason.